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Leach, C.W.; van Zomeren, M.; Zebel, S.; Vliek, M.L.W.; Pennekamp, S.F.; Doosje, B.; Ouwerkerk, J.W.; Spears, R.

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Group-Level Self-Definition and Self-Investment: A Hierarchical (Multicomponent) Model of In-Group Identification

Colin Wayne Leach
University of Sussex

Martijn van Zomeren
VU University Amsterdam

Sven Zebel, Michael L. W. Vliek,
Sjoerd F. Pennekamp, and Bertjan Doosje
University of Amsterdam

Jaap W. Ouwerkerk
VU University Amsterdam

Russell Spears
Cardiff University and University of Amsterdam

Recent research shows individuals' identification with in-groups to be psychologically important and socially consequential. However, there is little agreement about how identification should be conceptualized or measured. On the basis of previous work, the authors identified 5 specific components of in-group identification and offered a hierarchical 2-dimensional model within which these components are organized. Studies 1 and 2 used confirmatory factor analysis to validate the proposed model of self-definition (individual self-stereotyping, in-group homogeneity) and self-investment (solidarity, satisfaction, and centrality) dimensions, across 3 different group identities. Studies 3 and 4 demonstrated the construct validity of the 5 components by examining their (concurrent) correlations with established measures of in-group identification. Studies 5–7 demonstrated the predictive and discriminant validity of the 5 components by examining their (prospective) prediction of individuals' orientation to, and emotions about, real intergroup relations. Together, these studies illustrate the conceptual and empirical value of a hierarchical multicomponent model of in-group identification.

Keywords: identity, identification, group, social identity, self-stereotyping

Individuals' membership in groups has serious implications for their experience and behavior (for reviews, see Cartwright & Zander, 1968; Tajfel & Turner, 1979; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). However, not all groups are equally influential. In the last decade, research has shown that individuals' identification with in-groups determines the degree to which their membership is psychologically affecting and socially consequential (for a review, see Ellemers, Spears, & Doosje, 1999). This has made in-group identification a near indispensable construct in understanding intra- and intergroup dynamics.

Colin Wayne Leach, Department of Psychology, University of Sussex, Brighton, United Kingdom; Martijn van Zomeren, Department of Psychology, VU University, Amsterdam, the Netherlands; Sven Zebel, Michael L. W. Vliek, Sjoerd F. Pennekamp, and Bertjan Doosje, Department of Social Psychology, University of Amsterdam, Amsterdam, the Netherlands; Jaap W. Ouwerkerk, Department of Communication, VU University, Amsterdam, the Netherlands; Russell Spears, School of Psychology, Cardiff University, Cardiff, United Kingdom and Department of Social Psychology, University of Amsterdam, Amsterdam, the Netherlands.

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Correspondence concerning this article should be addressed to Colin Wayne Leach, Department of Psychology, Pevensey 1, University of Sussex, Brighton, England, BN1 9QH. E-mail: c.w.leach@sussex.ac.uk

Although most research treats identification as general connection to an in-group and operationalizes it as a unitary scale, this approach appears to be inadequate both conceptually and empirically (for reviews, see Ashmore, Deaux, & McLaughlin-Volpe, 2004; Sellers, Smith, Shelton, Rowley, & Chavous, 1998). As a remedy, recent research has identified more specific components of in-group identification such as "self-categorization," "affective commitment," and "centrality" (e.g., Cameron, 2004; Ellemers, Kortekaas, & Ouwerkerk, 1999; Jackson, 2002; Luhtanen & Crocker, 1992; Sellers, Rowley, Chavous, Shelton, & Smith, 1997; see Table 1). Unfortunately, there is little agreement regarding the precise number and nature of these components, or how they might fit within a more general conceptual model.

Building on previous work, we offer a hierarchical, multicomponent model of in-group identification. In a first step, we briefly review previous multicomponent approaches and identify five distinct components of in-group identification: *individual self-stereotyping*, *in-group homogeneity*, *solidarity*, *satisfaction*, *and centrality*. Based in classic and contemporary thinking, we conceptualize these specific components of in-group identification as fitting within two, more general, dimensions. Thus, we distinguish group-level *self-definition* (i.e., individual self-stereotyping, in-group homogeneity) from *self-investment* (solidarity, satisfaction, and centrality). We report seven studies to demonstrate the value of our approach.

Table 1
Multicomponent Approaches to In-Group Identification

Study	Satisfaction	Solidarity	Centrality	Individual self-stereotyping	In-group homogeneity
Ellemers, Kortekaas, & Ouwerkerk (1999)	*Group self-esteem*	*Commitment*	*Self-categorization*		
	· I *feel good* about my group.	· . . .rather *belong* to another group.	· . . .*important* reflection of who I am.		
	· (rather not tell that I belong to this group) →		· (I am *like* other members. . .) →		
	←	· (I *dislike* being a member)			
Jackson (2002)	*Evaluation/attraction*	*Affective ties*	*Self-categorization*		
	· I *am glad* I am a member. . .	· The in-group is united	· . . .*important* part of my identity.		
	· (*I* am a *typical*. . .) →	· I feel a *kinship* of sorts. . . →	· (*I* act *like* an in-group person. . .) → →		
	· (I *support* the in-group) →		· (. . .things *in common*. . .) →		
Cameron (2004)	*In-group affect*	*In-group ties*	*Centrality*		
	· . . .I'm *glad* to be. . .	· I feel strong *ties to*. . .	· I *often think* about the fact that I am. . .		
	· I often *regret* that I am. . .	· (a lot *in common* with. . .)	· . . .*important* part of my self-image.		
		→	→		
Luhtanen & Crocker (1992)	*Public/private*	*Membership*	*Identity*		
	· I *feel good* about. . .	· I am a *cooperative*. . .	· . . . an *important* reflection of who I am.		
	· I often *regret* that I belong	(. . .feel I'm a useless. . .)	· . . .an *important* part of my self-image.		
Sellers et al. (1998)	*Regard*		*Centrality*		
		←	· (I have a strong attachment to other. . .)		
	· I feel good about. . .	←	· (. . .strong sense of belonging to. . .)		
	· I am proud to be. . .		· . . .an *important* part of my self-image.		
	· I often *regret* that I am. . .		· . . .an important reflection of who I am.		

Note. Arrows show where our conceptual framework suggests that an item falls under a different component than originally proposed.

Multiple Components of In-Group Identification

Individual Self-Stereotyping

Identification with a group presumes a self-categorization that includes the individual in the group (Tajfel, 1978; Turner et al., 1987). This is likely why some measures of group identification include items such as "I see myself as a member of [group]" (see the Appendix). However, identification with a group means more than simple inclusion in the group (Tajfel, 1978). Numerous approaches suggest that identification with a group is indicated when individuals *perceive themselves* in terms of their group membership (for a review, see Ashmore et al., 2004). For example, Campbell's (1958) discussion of "entitativity" and Lewin's (1948) discussion of "common fate" suggest that in-group identification is based in individuals perceiving themselves as *similar* to other in-group members. More recently, self-categorization theory (Turner et al., 1987) suggested that in-group identification is indicated by a "depersonalized" self-perception, whereby individuals come to "self-stereotype" themselves as similar to other members of their in-group (for a review, see Oakes, Haslam, & Turner, 1994). We refer to this component of in-group identification as *individual self-stereotyping*.

Individuals can self-stereotype by perceiving themselves as similar to average (or otherwise prototypical) members of their in-group (for reviews, see Oakes et al., 1994; Simon, 1992; Turner et al., 1987). For example, Spears, Doosje, and Ellemers (1997) found individuals who had been categorized as a member of an in-group to perceive themselves as more similar to fellow in-group members. This individual self-stereotyping should lead individuals to see themselves as sharing a common fate with their in-group (for reviews, see Simon, 1992; Turner et al., 1987). As a result of depersonalization and psychological inclusion in an in-group, individual self-stereotyping should lead individuals to share emotionally in their in-group's successes and failures (Lewin, 1948; Tajfel, 1978). Individual self-stereotyping may be especially important in leading individuals to share emotionally in their in-group's failures and misdeeds; without this form of group-level self-definition, individuals may prefer to avoid suffering as a result of their group membership (Leach, Snider, & Iyer, 2002; Lewin, 1948).

Several previous multicomponent approaches to in-group identification include items regarding individual self-stereotyping in more broadly conceptualized components (see Table 1). For example, Jackson (2002) included items that assessed perceived similarity to in-group members in a multifaceted component called "self-categorization" (see also Ellemers, Kortekaas, & Ouwerkerk, 1999). And, Cameron's (2004) "in-group ties" component included an item regarding perceived commonality with in-group members along with items regarding a sense of belonging and solidarity. Given these disparate approaches, we think it useful to examine a narrowly specified component of in-group identification focused on the degree to which individuals perceive themselves as similar to, and having things in common with, average in-group members (see Spears et al., 1997). Only by narrowly conceptualizing and measuring individual self-stereotyping can we adequately examine whether it is a distinct component of in-group identification.

In-Group Homogeneity

Individual self-stereotyping indicates the degree to which an individual perceives herself or himself as similar to an in-group prototype. This component of in-group identification is related to, but different from, the degree to which individuals perceive their *entire group* as sharing commonalities (e.g., Doosje, Ellemers, & Spears, 1995; Lickel et al., 2000) that make the group relatively homogeneous (for reviews, see Oakes et al., 1994; Simon, 1992). Perceived *in-group homogeneity* establishes the in-group as a coherent social entity (Lickel et al., 2000; Oakes et al., 1994). As such, in-group homogeneity should be associated with perceiving the in-group as distinct from relevant out-groups (Oakes et al., 1994; Turner et al., 1987). Self-categorization theory refers to this perceptual distinction between in-group and out-group as "meta-contrast." It suggests that perceived in-group homogeneity is associated with a desire to maintain the in-group's positive distinctiveness from out-groups. Thus, in-group identification in the form of perceived in-group homogeneity should predict opposition to the integration of immigrants or ethnic minorities in one's country, as such integration decreases the homogeneity of the country. Although the perception of in-group homogeneity has been studied extensively, no previous multicomponent approaches to in-group identification specify it as a component. Thus, we examined the degree to which a narrowly specified measure of perceived in-group homogeneity is a component of in-group identification distinct from individual self-stereotyping and other components suggested in the literature.

Satisfaction

One's identification with an in-group is perhaps most clearly shown in one's positive feelings about the group and one's membership in it (Tajfel, 1978; Tajfel & Turner, 1979). However, the conceptualization and measurement of such satisfaction varies across previous multicomponent approaches (see Table 1). For example, several researchers combine positive and negative feelings about the in-group in a single component. Thus, Luhtanen and Crocker's (1992) "private" Collective Self-Esteem subscale assesses individual's positive (e.g., feeling glad to be a group member) as well as negative (e.g., regret being a group member) feelings about group membership (see also Sellers et al., 1998). Ellemers, Kortekaas, and Ouwerkerk's (1999) "group self-esteem" component focuses on negative feelings about group membership (i.e., believing that the group has little to be proud of, having little respect for the group) but also includes one positive feeling (i.e., "I feel good about my group. . ."). However, as positive and negative affect tend to be independent (Watson, Clark, & Tellegen, 1988), there is little reason to presume that more positive feelings about an in-group imply less negative feelings.

Other multicomponent approaches to in-group identification include an even wider variety of items to assess satisfaction with in-group membership (see Table 1). For example, Jackson's (2002) "evaluative" component includes items that assess the view that individuals are "typical" group members (i.e., what we call individual self-stereotyping) as well as items that assess what seems like low solidarity with the in-group (e.g., "I live my life as independently from in-group members as possible," "I don't really feel like part of the in-group"). Thus, existing measures of in-

group identification do not focus on unambiguous feelings of satisfaction (e.g., "glad to be " "a lot to be proud of," "gives me a good feeling"), despite wide agreement that positive feeling about group membership is an important component of in-group identification. For these reasons, we measured satisfaction with in-group membership in this narrowly specified way to adequately examine whether it is distinct from other components and whether it has the distinct effects its conceptualization suggests. As satisfaction is perhaps the most general way in which individuals may identify with an in-group, it may be most associated with the other components of in-group identification. As such, satisfaction is likely to be associated with a wide range of group-related phenomena, including psychological attachment to the in-group and coordination with other group members. However, satisfaction should be especially associated with *maintaining* a positive evaluation of the in-group (for a review, see Ashmore et al., 2004). As such, satisfaction may lead individuals to downplay negative events or to resist negative portrayals of the in-group in an attempt to maintain their satisfaction with the in-group.

Solidarity

Perhaps due to the influence of Durkheim (1893/1947), early social psychological notions of in-group identification emphasized the component of solidarity (for a review, see Cartwright & Zander, 1968). For example, Lewin (1948) suggested that those most identified with an in-group are most inclined to feel a psychological bond with their fellow members. More recent work in the social identity tradition emphasizes psychological and behavioral "commitment" to the in-group in a way similar to earlier approaches to solidarity (for a review, see Ellemers, Spears, & Doosje, 1999). Although focused on the interpersonal level, Brewer and Gardner's (1996) notion of the relational self is also similar to the notion of solidarity. They conceptualized the relational self as based in individuals' "role relationships with significant others" in dyads (e.g., mother, friend, sibling) or small coacting groups (e.g., a family or small set of coworkers).

Previous multicomponent approaches to measuring in-group identification have not tended to assess solidarity as a distinct component. For example, Luhtanen and Crocker's (1992) "membership" component makes only oblique reference to solidarity with items such as "I am a cooperative participant in the social groups I belong to" and "I am a worthy member of. . ." As shown in Table 1, Ellemers, Kortekaas, and Ouwerkerk's (1999) "commitment" and Jackson's (2002) "affective ties" components include items that tap into solidarity with an in-group. However, these components also include items assessing positive or negative feelings about in-group membership (see Table 1). Cameron's (2004) "in-group ties" component includes an item assessing something akin to what we refer to as individual self-stereotyping along with items that appear to tap solidarity (see Table 1).

Given the importance of solidarity to classic sociology and group dynamics, we think it likely that solidarity constitutes a distinct component of in-group identification. As solidarity is based in a psychological bond with, and commitment to, fellow in-group members, it should be associated with a sense of belonging, psychological attachment to the in-group, and coordination with other group members. Given that such commitment is an investment of the self in the group to which one is bonded, solidarity should be associated with approaching the in-group and group-based activity (e.g., Ellemers, Kortekaas, & Ouwerkerk, 1999), rather than avoidance of the in-group and its obligations (e.g., Smith, Murphy, & Coats, 1999). It is this investment of the self in coordinated activity with those to whom one feels committed that most differentiates solidarity from a component such as individual self-stereotyping, which focuses less on this kind of investment of the self in the group and more on a definition of the self at the group level.

Centrality

Self-categorization theory suggests that identification with an in-group makes the group a central aspect of the individual's self-concept (see Oakes et al., 1994; Turner et al., 1987). The centrality of a group membership is shown in its chronic salience as well as the subjective importance that individuals give their group membership (e.g., for reviews, see Ashmore et al., 2004; Turner et al., 1987). Of the previous multicomponent approaches to in-group identification, only Cameron (2004) assessed centrality through measures of salience and importance (cf. Luhtanen & Crocker, 1992; Sellers et al., 1997). Most other approaches include centrality as part of a more general "cognitive" or "self-categorization" component that does not distinguish it from simple inclusion in an in-group, individual self-stereotyping, or in-group homogeneity (see Table 1).

Where the centrality component of in-group identification is narrowly specified as the salience and importance of in-group membership, centrality should lead individuals to be sensitive to in-group and intergroup events (for reviews, see Oakes et al., 1994; Turner et al., 1987). As such, centrality should lead individuals to be sensitive to threats to their in-group (see Sellers et al., 1998). For example, Sellers and Shelton (2003) showed that African Americans who saw their in-group as central were more likely to perceive the threat of racial discrimination by European Americans. We think it likely that the centrality component of in-group identification will lead individuals to perceive greater threat to their in-group, whether real or symbolic. As the perception of group threat tends to encourage active coping (for reviews, see Ellemers, Spears, & Doosje, 1999; Tajfel & Turner, 1979), centrality may lead individuals to defend their in-group against perceived threat. For example, centrality may lead individuals to legitimate or rationalize their in-group's mistreatment of an outgroup if such misdeeds threaten the in-group's identity or position in society. Thus, the more central the in-group, the more individuals should defend this in-group against threat; an unimportant in-group is not worth defending.

A Hierarchical Model

We reviewed previous theory and research to identify five narrowly specified components of in-group identification: individual self-stereotyping, in-group homogeneity, satisfaction, solidarity, and centrality. In the studies below, we describe brief measures designed to assess whether these five constructs are distinguishable components of in-group identification. Rather than simply contributing to the proliferation of multicomponent approaches, we sought to integrate these specific components into a more general conceptual framework. Thus, we proposed a two-

dimensional model that specifies how the components are related to each other. Group-level *self-definition* and *self-investment* are offered as more abstract, higher order dimensions along which the more specific components of in-group identification fall.

Group-Level Self-Definition and Self-Investment

A wide variety of thinking suggests a distinction between two general dimensions of in-group identification. For example, sociological theory has long distinguished between two different ways in which individuals relate to the groups to which they belong (see Broom & Selznick, 1973). In an influential approach, Durkheim (1893/1947) distinguished between two forms of solidarity with groups: "mechanical" and "organic." He suggested that mechanical solidarity is based in individuals defining themselves in terms of the similarities they share with others in their clan, village, or other social category (e.g., language, accent, physical features). In contrast, organic solidarity is based in a subjective sense of purposeful self-investment in an in-group with which one has chosen to align oneself. Toennies (1887/1988) made a similar distinction between two general dimensions of group ties, in his discussion of *gemeinschaft* and *gesellschaft*. Much like mechanical solidarity, *gemeinschaft* describes a kinship with fellow group members that is based in similarity and shared circumstance. Much like organic solidarity, *gesellschaft* describes a purposeful, chosen association with a group defined by its shared goals and interests.

Thus, classic sociological theory suggests two different ways in which individuals identify with in-groups. One dimension of in-group identification is focused on *self-definition* at the group level. Identifying with a group in terms of self-definition should be manifested in individuals' perceptions of themselves as similar to an in-group prototype. Group-level self-definition should also be manifested in individuals' perception of their in-group as sharing commonalities. As such, the dimension of self-definition should be indicated by the specific components of in-group identification we refer to above as individual self-stereotyping and in-group homogeneity. The other dimension of in-group identification described by classic sociological theory is focused on individuals' *self-investment* in the group. Identifying with a group in terms of self-investment should be manifested in individuals' positive feelings about their in-group membership as well as a sense that they have a bond with the in-group. Group-level self-investment should also be manifested in the importance and salience of individuals' in-group membership. As such, the dimension of self-investment should be indicated by the specific components of in-group identification we refer to above as satisfaction, solidarity, and centrality.

When considered together, the dimensions of (group-level) self-definition and self-investment suggest a two-dimensional model within which the specific components of in-group identification can be organized. As shown in Figure 1a, conceptualizing in-group identification in terms of two correlated dimensions specifies how the specific components of in-group identification suggested by previous research are related to each other. More specifically, the model suggests that individual self-stereotyping and in-group homogeneity are most similar conceptually because they both indicate group-level self-definition, whereas satisfaction, solidarity, and centrality are most conceptually similar because they indicate group-level self-investment. In this way, our two-dimensional model allows for a greater number of more specific components of in-group identification to be organized within a single framework. As far as we are aware, no previous work has sought to identify as broad a range of components of in-group identification and to organize them in a hierarchical framework that specifies their interrelations.

Although we are unaware of any previous social psychological work suggesting the kind of hierarchical model we offer here, the social identity approach to in-group identification is consistent with our two-dimensional model. Indeed, like classical sociological theory, social identity theory suggests that an in-group can provide individuals with a group-level self-definition. As Tajfel (1978) put it, ". . . social categorization can therefore be considered as a system of orientation which helps to create and *define* [italics added] the individual's place in society" (p. 63). Self-categorization theory has developed this line of reasoning into a fuller theory of self-concept that focuses on "social categorizations that extend *self-definition* [italics added] beyond the individual person" (Turner, 1982, p. 31). The social identity tradition also suggests that (group-level) self-investment is important to individuals' identification with in-groups. For example, Tajfel (1978) argued that the relevance of an individual's group membership "increases as a function of: [. . .] the emotional *investment*" [italics added] in the group (p. 39). This is likely why social identity research has tended to emphasize individual's positive feelings about (e.g., Ellemers, Kortekaas, & Ouwerkerk, 1999; Luhtanen & Crocker, 1992) and solidarity with (e.g., Ellemers, Kortekaas, & Ouwerkerk, 1999) in-groups. In a somewhat different way, self-categorization theory (Turner et al., 1987) alluded to the notion of self-investment in its concern for the degree to which in-group membership is subjectively salient and important to individuals. Thus, work within the social identity tradition is consistent with our suggestion that self-definition and self-investment constitute two general dimensions of in-group identification.

Although mostly focused on intragroup interaction, several approaches to group dynamics and group entitativity are consistent with our dimensions of group-level self-definition and self-investment (e.g., Campbell, 1958; Lewin, 1948). For example, Prentice, Miller, and Lightdale (1994) distinguished between groups defined by the "common bonds" *between* members and groups defined by the "common identity" *all* members share as a result of their category inclusion (see also Wilder & Simon, 1998). Although presumed to operate at the interpersonal level, Prentice et al.'s (1994) notion of a common-bond group bears some resemblance to the concepts of organic solidarity and *gesellschaft* that inspired our conceptualization of group-level self-investment. And, the "common identity" that group members share as a function of their psychological inclusion in a category is similar to our notion of group-level self-definition. However, it is important to note that our components of in-group identification focus on the abstract psychological connection that an individual has to their in-group as a whole rather than on the dynamics of interpersonal copresence or coaction (for discussions, see Ashmore et al., 2004; Cartwright & Zander, 1968; Turner et al., 1987). This emphasis flows from the social identity tradition of work that has guided most multicomponent measures of in-group identification. Although we think that the face-to-face dynamics of interpersonal interaction are important, our interest is in offering a conceptual

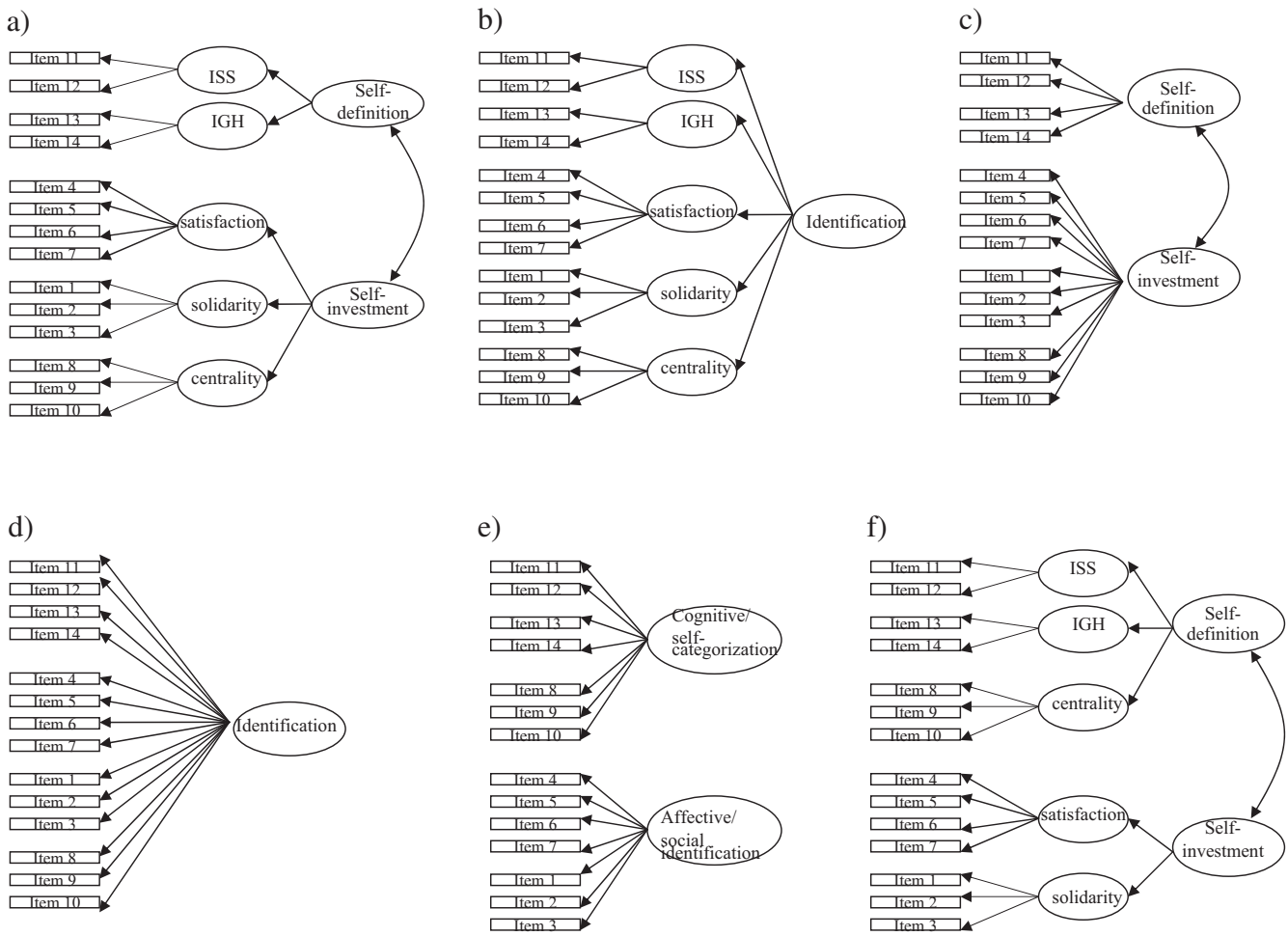

Figure 1. Competing (measurement) models of in-group identification. a: five-component/two-dimensional. b: five-component/one-dimensional. c: two component: Self-definition and self-investment. d: one component: Identification. e: two component: Cognitive/self-categorization and affective ties/social identity. f: alternative five-component/two-dimensional. ISS = individual self-stereotyping; IGH = in-group homogeneity.

model of individuals' identification with their in-groups as whole, collective entities.

Overview

Individuals' identification with an in-group is often treated as a general psychological connection. However, recent work suggests that a multicomponent approach is more appropriate. Thus, we identified five different components of in-group identification suggested in the literature: individual self-stereotyping, in-group homogeneity, satisfaction, solidarity, and centrality. The development of brief measures designed to assess these components are described in Study 1. We used confirmatory factor analysis (CFA) in Studies 1 and 2 to examine the validity of the hierarchical model we proposed to organize the five components of in-group identification within two more general dimensions: self-definition and self-investment. In Studies 3–4, we examined the construct validity of the five components of in-group identification. Thus, we assessed the (concurrent) correlations the five components have with established measures of in-group identification. In Studies 5–7, we used the five components of in-group identification to prospectively predict individuals' orientation to real intergroup relations.

Studies 1 and 2

Method

Participants

As part of a course requirement, 512 first-year students completed a questionnaire that was included in a mass testing session. In separate sections of the Study 1 questionnaire, we assessed identification with the Netherlands, Europe, and the University of Amsterdam. Within each section, items were presented in a single random order. Only the 464 who indicated that they were born in the Netherlands and that their native language was Dutch were included in the final sample (132 men, 332 women). Of the participants, 1 self-described as Turkish, 1 as Moroccan, 8 as Surinamese or Antillean, 446 as Dutch, and 8 gave no response.

One year later, Study 2 used the same procedure to ask a new cohort of 413 first-year students about their Dutch and European

identities. Only the 363 who indicated that they were born in the Netherlands and that their native language was Dutch were included in the final sample (109 men, 254 women). Of these participatns, 2 self-described as Turkish, 2 as Moroccan, 10 as Surinamese or Antillean, 335 as Dutch, and 14 gave no response.

Item Generation

Drawing on the above literature review, 20 possible items were generated to assess the five components of in-group identification. As shown in the Appendix, most of these items were close adaptations of those used in previous multicomponent approaches. However, to assess individual and in-group homogeneity, several items were adapted from experiments in which perceived similarity within in-groups was examined (i.e., Doosje et al., 1995; Spears et al., 1997). One item was generated to better assess the solidarity component.

Through group discussion, the authors reached a consensus about what items adequately indicated each component. Items deemed overly general, vague, or indicating multiple components were excluded from consideration.[1] By these three criteria, 14 items were identified as having sufficient face validity. These items were presented with a Likert-type response scale that ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). As our main interest is the conceptualization of in-group identification, rather than scale development, we preferred briefer measures of more components to more extensive measures of fewer components (as has been typical in previous research). Our strategy was also guided by the fact that briefer components are more easily examined in CFA (Kline, 1998), and more components aid the analysis of general dimensions (Tabachnick & Fidell, 1996).

Results and Discussion

Competing (Measurement) Models: CFA

We performed CFAs, with EQS 6.1, to examine how well our proposed measurement model fit the 14 items of in-group identification. Items were permitted to load only on the component they were expected to indicate, and no item errors were allowed to correlate. The five components of in-group identification were specified as indicating second-order factors of self-definition (i.e., individual self-stereotyping and in-group homogeneity) or self-investment (i.e., satisfaction, solidarity, centrality). Although the five components were not allowed to correlate, the second-order factors of self-definition and self-investment were allowed to correlate. This model is shown in a Figure 1a.

Study 1

In a first step, we estimated our proposed measurement model separately for participants' Dutch, European, and university identification. Table 2 shows that this model fit the data well for all three group identities.[2] Fit indices exceeded the benchmark of .930, and both of the main residual indices fell below the benchmark of .080 for models with this sample size (see Hu & Bentler, 1999). As shown in Figure 2, the standardized item loadings confirmed that each of the five components was well defined by its items. Thus, all item loadings exceeded .60 and differed reliably from zero ($p < .05$). Each of the five components loaded onto the expected second-order factor (see Figure 2). These loadings exceeded .50 and differed reliably from zero ($p < .05$). The second-order factors of self-definition and self-investment tended to be moderately associated (.61–.77, all $ps < .05$).

In a second step, we estimated the fit of the five alternative models, shown in Figures 1b–e. As the fit of these alternatives cannot be directly compared with our model, we examined whether the alternative models adequately account for the data. We used the Akaike information criterion (AIC) index in a more comparative fashion (as it can be used to compare models on the basis of the same data matrix; Kline, 1998). As shown in Figure 1b, the first alternative model specified our five components as indicating one second-order factor of in-group identification. Thus, Model 1b presumes that the two second-order dimensions of our proposed model are unnecessary. This model provided only marginal fit to the data (see Table 2). In addition, it produced AIC values that tended to be twice those of our proposed model.

A second alternative model specified the items of individual self-stereotyping and in-group homogeneity as indicating a self-definition factor, whereas the components of satisfaction, solidarity, and centrality indicated a self-investment factor. Thus, Model 1c presumes that the five components of our proposed model are unnecessary. This model fit the data poorly. In addition, this model produced AIC values many times those of our proposed model (see Table 2).

A third alternative specified all of the items as indicating a general factor of in-group identification. Like work that uses unitary measures of in-group identification, Model 1d presumes that neither the five components nor the two dimensions of our proposed model are necessary. This model fit the data poorly. In addition, this model produced AIC values many times those of our proposed model (see Table 2).

A fourth alternative model specified the items of individual self-stereotyping, in-group homogeneity, and centrality as indicating a cognitive/self-categorization factor (see Ellemers, Kortekaas, & Ouwerkerk, 1999; Jackson, 2002), whereas the items of satisfaction and solidarity indicated an affective ties/social identity factor (see Ellemers, Kortekaas, & Ouwerkerk, 1999; Jackson, 2002). Thus, Model 1e suggests a latent structure similar to that of several previous multicomponent approaches. This model fit the data poorly. In addition, this model produced AIC values many times those of our proposed model (see Table 2).

Model 1f provides a fifth alternative to our hypothesized model. Here, the components of individual self-stereotyping, in-group homogeneity, and centrality indicate the self-definition dimension,

[1] Items 15 and 16 were excluded because they were overly general. Items 18 and 20 were excluded because they were construed as indicating more than one component. For example, the item "I have a lot of respect for [group]" implies both satisfaction and solidarity with the group. Items 17 and 19 were excluded because they were vague. For example, the statement "[group] are an important group to me" differs from our other indicators of centrality because it does not specify that the group is important to the individual's identity or self-perception.

[2] The chi-square was statistically reliable across all three identities. However, given the large sample size and degree of freedom, the chi-square is not as appropriate as incremental fit indices (Hu & Bentler, 1999). Measurement models rarely produce nonreliable chi-squares in samples of this size.

Table 2
Fit of Competing (Measurement) Models of In-Group Identification in Study 1

	Group membership		
Measurement model	University	Dutch	European
Five-component/two-dimensional[a]			
CFI	.967	.974	.970
NFI	.952	.959	.955
GFI	.938	.946	.961
SRMR	.051	.037	.046
RMSEA	.066	.058	.065
AIC	70.09	39.40	65.31
χ^2	212.09*	181.40*	207.31*
Five-component/one-dimensional[a]			
CFI	.961	.961	.940
NFI	.946	.945	.926
GFI	.930	.929	.923
SRMR	.057	.062	.091
RMSEA	.071	.072	.091
AIC	96.13	99.46	199.30
χ^2	238.13*	241.46*	341.30*
Two-component: Self-definition and self-investment[b]			
CFI	.697	.768	.738
NFI	.686	.756	.727
GFI	.676	.721	.679
SRMR	.112	.090	.094
RMSEA	.193	.169	.184
AIC	1235.57	927.69	1105.55
χ^2	1387.57*	1079.69*	1257.55*
One-component: Identification[c]			
CFI	.600	.652	.572
NFI	.591	.643	.563
GFI	.629	.647	.583
SRMR	.119	.121	.136
RMSEA	.220	.206	.233
AIC	1653.60	1427.18	1855.81
χ^2	1807.60*	1581.18*	2009.81*
Two-component: Cognitive/self-categorization and affective ties/social identity[b]			
CFI	.660	.710	.672
NFI	.650	.699	.662
GFI	.651	.664	.631
SRMR	.115	.126	.150
RMSEA	.204	.189	.205
AIC	1394.54	1179.03	1402.38
χ^2	1546.54*	1331.03*	1554.38*
Alternative five-component/two-dimensional[a]			
CFI	.962	.963	.946
NFI	.947	.948	.931
GFI	.932	.934	.913
SRMR	.057	.058	.081
RMSEA	.070	.069	.087
AIC	91.40	86.91	174.74
χ^2	233.40*	228.91*	316.74*

Note. CFI = comparative fit index; NFI = normed fit index; GFI = goodness-of-fit index; SRMR = standardized root-mean square residual; RMSEA = root-mean-square error of approximation; AIC = Akaike information criterion.
[a] $df = 71$. [b] $df = 76$. [c] $df = 77$.
* $p < .05$.

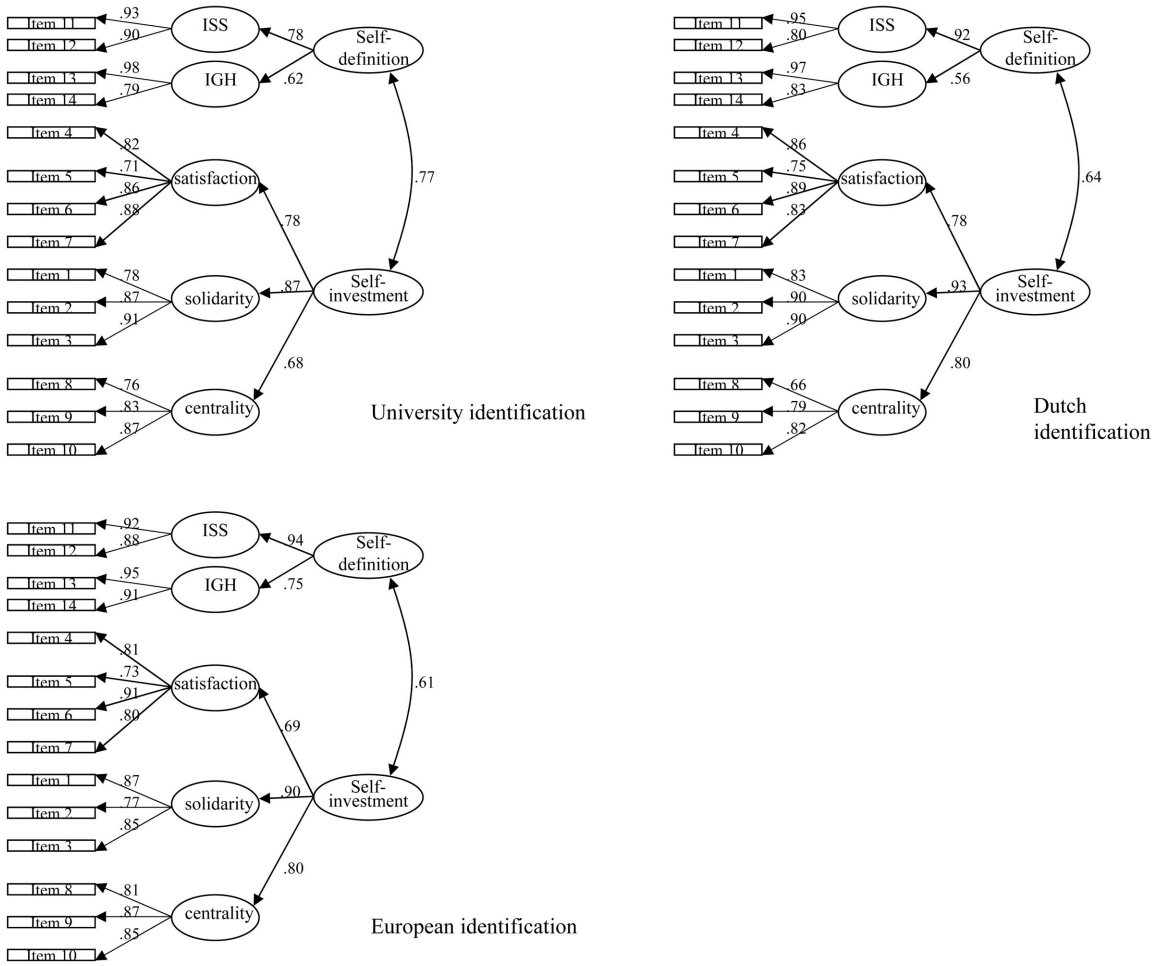

Figure 2. Proposed measurement model for University, Dutch, and European identification. ISS = individual self-stereotyping; IGH = in-group homogeneity.

whereas the components of satisfaction and solidarity indicate the self-investment dimension. Thus, Model 1f is consistent with the view that the centrality of group membership has more to do with the self-definitional aspects of self-categorization and self-perception than with investment of the self in the in-group (e.g., Cameron, 2004; Ellemers, Kortekaas, & Ouwerkerk, 1999; Jackson, 2002). Although this model tended to fit the data satisfactorily, its AIC values tended to be twice those of our proposed model (see Table 2).

Study 2

Table 3 shows the fit of our proposed measurement model and the five alternatives. Our proposed model fit the data well for identification as both Dutch and European. All three fit indices exceeded the benchmark of .930, and both of the residual indices fell below the benchmark of .080. The standardized item loadings confirmed that each of the five components was well defined by its items. And, all item loadings exceeded .60 and differed reliably from zero ($p < .05$). Each of the five components loaded onto the expected second-order factor. These loadings exceeded .60 and differed reliably from zero ($p < .05$). The second-order factors of self-definition and self-investment tended to be moderately associated (.69–.71, all *ps* $< .05$).

Table 3 shows that the five alternative models did not fit as well as our proposed model. Models 1c, 1d, and 1e fit the data poorly and produced AIC values many times those of our hypothesized model. Model 1b provided only marginal fit. In addition, it produced AIC values that tended to be twice those of our proposed model. Model 1f provided satisfactory fit but produced AIC values nearly twice those of our proposed model. These results are consistent with those of Study 1. Thus, none of the other models we examined were viable alternatives to our proposed model.

Multigroup Comparison

Although our proposed model of in-group identification appeared to fit equally well across the five different measurements reported above, we examined this directly by performing a multigroup comparison. We specified a model that constrained to be equal across the five measurements, all factor loadings, covariances, and (item and component) errors. If indicators do not load

Table 3
Fit of Competing (Measurement) Models of In-Group Identification in Study 2

	Group membership	
Measurement model	Dutch	European
Five-component/two-dimensional[a]		
CFI	.966	.983
NFI	.947	.960
GFI	.927	.952
SRMR	.047	.034
RMSEA	.069	.044
AIC	52.13	−20.96
χ^2	194.13*	121.04*
Five-component/one-dimensional[a]		
CFI	.954	.960
NFI	.936	.937
GFI	.912	.930
SRMR	.064	.059
RMSEA	.080	.068
AIC	91.78	46.88
χ^2	233.78*	188.88*
Two-component: Self-definition and self-investment[b]		
CFI	.807	.828
NFI	.791	.808
GFI	.769	.795
SRMR	.085	.076
RMSEA	.159	.135
AIC	612.09	425.81
χ^2	764.09*	577.81*
One-component: Identification[c]		
CFI	.679	.675
NFI	.666	.659
GFI	.674	.697
SRMR	.203	.185
RMSEA	.113	.105
AIC	1069.44	873.49
χ^2	1223.44*	1027.49*
Two-component: Cognitive/self-categorization and affective ties/social identity[b]		
CFI	.739	.742
NFI	.725	.724
GFI	.690	.715
SRMR	.140	.102
RMSEA	.185	.166
AIC	855.75	679.97
χ^2	1007.75*	831.97*
Alternative five-component/two-dimensional[a]		
CFI	.957	.963
NFI	.939	.941
GFI	.915	.931
SRMR	.060	.055
RMSEA	.078	.065
AIC	83.01	35.93
χ^2	225.01*	177.93*

Note. CFI = comparative fit index; NFI = normed fit index; GFI = goodness-of-fit index; SRMR = standardized root-mean-square residual; RMSEA = root-mean-square error of approximation; AIC = Akaike information criterion.
[a] $df = 71$. [b] $df = 76$. [c] $df = 77$.
* $p < .05$.

onto their factors, or if factors do not correlate to each other, then, in equivalent ways across the five measurements, this would produce poor model fit. Although the estimated model was statistically different from the observed covariance matrix, $\chi^2(491, N = 827) = 1624.18$, $p < .001$, this was not surprising given the model's complexity and the sample size. More important, a wide variety of fit indices showed our model to be consistent across the five measurements of in-group identification. Fit indices tended to exceed the .930 benchmark (comparative fit index [CFI] = .94; normed fit index [NFI] = .92; nonnormed fit index [NNFI] = .94), and both of the residual indices were below the .08 benchmark (standardized root-mean-square residual [SRMR] = .07; root-mean-square error of approximation [RMSEA] = .03).

Reliability and Descriptive Statistics

Given the confirmation of our five-component measurement model, we computed scale scores for each component. These scales were reliable, and their reliability did not appear to differ much across group identities or across studies (see Table 4). Mean levels of endorsement also appeared to be similar across samples. Across the three group memberships, the satisfaction component was most endorsed, whereas centrality was least endorsed. And, across all five components, participants reported higher Dutch identification than university or European identification.

As shown in Table 4, the intercomponent correlations were of a similar magnitude across the five measurements of in-group identification. The highest intercorrelations tended to be between components expected to fall along the same dimension. For example, the satisfaction, solidarity, and centrality components were moderately correlated to each other. This is consistent with our hierarchical conceptualization and the results of the CFAs testing this conceptualization. However, it is worth noting that the satisfaction component appeared to be most highly correlated to the other components of self-investment. This may have occurred because satisfaction may be the most direct and clear way for individuals to express identification with an in-group. Thus, in the studies of construct validity reported below, we examine partial correlations that control for the satisfaction component.

Table 4
Descriptive Statistics for Five Components of In-Group Identification in Studies 1 and 2

Component	α	*M*	*SD*	1	2	3	4	5
				Study 1				
University								
1. ISS	.91	3.30[a]	1.30	—	.43*	.40*	.53*	.33*
2. IGH	.88	3.25[a]	1.35		—	.32*	.38*	.36*
3. Satis.	.88	4.76[a]	1.18			—	.62*	.53*
4. Solid.	.89	3.90[a]	1.42					.49*
5. Centr.	.86	2.86[a]	1.41					—
European								
1. ISS	.93	3.27[a]	1.35	—	.64*	.38*	.46*	.44*
2. IGH	.89	3.05[b]	1.36		—	.21*	.36*	.37*
3. Satis.	.88	4.80[a]	1.25			—	.59*	.47*
4. Solid.	.88	3.57[b]	1.39					.63*
5. Centr.	.87	2.72[b]	1.39					—
Dutch								
1. ISS	.89	3.76[c]	1.33	—	.46*	.35*	.51*	.43*
2. IGH	.87	4.08[c]	1.37		—	.19*	.30*	.26*
3. Satis.	.90	5.14[c]	1.22			—	.67*	.53*
4. Solid.	.90	4.56[c]	1.33					.62*
5. Centr.	.80	3.56[c]	1.45					—
				Study 2				
European								
1. ISS	.93	3.67[a]	1.26		.60*	.31*	.43*	.42*
2. IGH	.89	3.41[a]	1.33			.31*	.43*	.42*
3. Satis.	.88	4.55[a]	1.15				.60*	.51*
4. Solid.	.88	3.67[a]	1.42					.66*
5. Centr.	.87	2.72[a]	1.35					
Dutch								
1. ISS	.89	3.78[a]	1.33	—	.50*	.37*	.51*	.43*
2. IGH	.87	4.10[c]	1.27		—	.24*	.37*	.29*
3. Satis.	.90	4.69[c]	1.23			—	.71*	.59*
4. Solid.	.90	4.36[c]	1.34					.66*
5. Centr.	.80	3.69[c]	1.34					—

Note. Boxed correlations are those of scales that fall along the same dimension. ISS = individual self-stereotyping; IGH = in-group homogeneity; Satis. = satisfaction; Solid. = solidarity; Centr. = centrality. Superscripts indicate statistically reliable pairwise comparisons across group memberships ($p < .05$).

Coda

Studies 1 and 2 offered at least four advantages over previous work. First, we examined five narrowly specified components of in-group identification rather than the smaller set of more broadly defined components examined in previous work. From a statistical perspective, a broader range of narrowly specified components enables a better assessment of the latent structure of in-group identification (Kline, 1998; Tabachnick & Fidell, 1996).

Second, we used CFA to examine our proposed measurement model. As a result, we compared our model with the most reasonable alternatives suggested by logic and the literature. Unfortunately, the majority of research on in-group identification has used principal components analysis (PCA) to examine the latent structure of items. As PCA is an exploratory, data-driven approach, it does not allow for the direct assessment of proposed or alternative models. In addition, PCA (especially with the typical orthogonal rotation) is inappropriate for the examination of multiple correlated factors (see Fabrigar, Wegener, MacCallum, & Strahan, 1999).

A third advantage of our approach was that we proposed a two-dimensional model within which the five components of in-group identification were organized. We then used a confirmatory approach to show the empirical validity of the self-definition and self-investment dimensions. Thus, in contrast to previous approaches, which simply showed their two or three components to be intercorrelated, our two-dimensional model specifies how five components fit within a hierarchical structure of self-definition and self-investment. In this way, the greater specificity of the five components is achieved without sacrificing the generality provided by the two dimensions.

The fourth advantage of our approach was its examination of identification with three different groups. By comparing identification with national (i.e., Dutch), supranational (i.e., Europe), and university in-groups, we could examine how well our conceptualization generalized across group memberships. More important, in-group identification had the same latent structure across the two studies and three group identities examined. Thus, our model of in-group identification was shown to be robust.

Studies 3–4: Concurrent Construct Validity

We performed additional studies to further validate our model of in-group identification. In Studies 3 and 4, we returned to the large samples of Studies 1 and 2 to assess the degree to which the five components of in-group identification are concurrently correlated with established measures.

Method

Participants and Procedure: Study 3

As part of the same mass testing session, the Study 1 sample completed several established measures of in-group identification.

Multigroup Ethnic Identity Measure. Phinney's (1992) measure of ethnic identification consists of 12 items designed to assess two subscales: Affirmation and Belonging (i.e., a sense of belonging to, and satisfaction with, one's in-group) and Identity Search (i.e., exploring, learning about, and being involved with one's in-group). Participants were asked to indicate their identification as Dutch (as opposed to Turkish, Surinamese, Moroccan). Responses were given on the original 4-point scale, which ranged from 1 (*strongly disagree*) to 4 (*strongly agree*). The Affirmation and Belonging subscale ($\alpha = .86$) includes items similar to our solidarity, centrality, and satisfaction components. The Identity Search ($\alpha = .67$) subscale includes items similar to our centrality and satisfaction components.

Group attachment. Smith et al.'s (1999) measure assesses individuals' attachment to an important group with two subscales: Attachment Avoidance ($\alpha = .79$; i.e., avoidance of closeness with, and dependence on, group members) and Attachment Anxiety ($\alpha = .80$; i.e., worry about being accepted and valued by groups and an attendant desire to fit in). Responses about Dutch identity were given on a 7-point scale, which ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). As attachment avoidance is suggestive of low in-group identification, it should be negatively correlated to most of our components of in-group identification, especially satisfaction with the in-group (see Smith et al., 1999). As attachment anxiety focuses on individuals' worries about their group membership, it should be most negatively associated with our satisfaction component (Smith et al., 1999). However, once lower satisfaction is accounted for, those higher in attachment anxiety should be most anxious about fitting in to an important group with which they have solidarity (Smith et al., 1999). Indeed, Smith et al. (1999) suggested that those higher in attachment anxiety "tend to try to please groups and fit in" (p. 96). We think that this suggests that the partial correlations between attachment anxiety and our centrality and satisfaction components should be positive. This sort of differential association between attachment anxiety and our components would provide good evidence of the component's divergent validity.

Study 4

As part of the same mass testing session, the Study 2 sample completed several established measures of in-group identification.

Collective self-esteem. Luhtanen and Crocker's (1992) Collective Self-Esteem (CSE) scale consists of 16 items divided evenly into four subscales. One set of randomly ordered items were made to refer specifically to Dutch identity and placed in a separate section of the questionnaire. Another set of randomly ordered items referred to European identity. Responses were given on a 7-point Likert-type scale, which ranged from 1 (*strongly disagree*) to 7 (*strongly agree*).

Private CSE ($\alpha_{Dutch} = .74$; $\alpha_{European} = .79$) assesses positive and negative evaluation of an in-group (e.g., "I often regret that I belong to the group European" [reversed scored]). Public CSE ($\alpha_{Dutch} = .70$; $\alpha_{European} = .71$) assesses an individual's sense of how others evaluate their in-group (e.g., "Overall, Europeans are considered good by others"). Identity CSE ($\alpha_{Dutch} = .75$; $\alpha_{European} = .71$) assesses the centrality of in-group membership (e.g., "Being European is an important reflection of who I am") as well its affect on individual feelings (e.g. "Overall, my group memberships have very little to do with how I feel about myself"). Membership CSE ($\alpha_{Dutch} = .64$; $\alpha_{European} = .70$) assesses individual's perceived contribution to their in-group (e.g., "I often feel I am a useless member of the group European," "I am a cooperative participant of the Dutch group").

Self-categorization. As the CSE scales appear to emphasize facets of in-group identification relevant to self-investment, we

turned to Jackson's (2002) Self-Categorization scale to assess facets of in-group identification relevant to self-definition. Although the 11 items we took from Jackson (2002) were all designed to assess a global "self-categorization" component ($\alpha_{Dutch} = .77$; $\alpha_{European} = .82$), they appear to tap at least two different subcomponents. Eight items appear to assess "depersonalization" (e.g., "I am a typical Dutch person," and "Dutch people have a number of things in common with each other"), which should be associated with our two components of group-level self-definition: individual self-stereotyping and in-group homogeneity. When combined, Jackson's "depersonalization" items formed reliable scales ($\alpha_{Dutch} = .79$; $\alpha_{European} = .85$). Three of Jackson's items appear to assess "meta-contrast" in terms of differentiating the in-group from out-groups (e.g., "I prefer to see Dutch people as distinct from other nationalities"; "There are important differences between Dutch people and other people"). When combined, these meta-contrast items formed reliable scales ($\alpha_{Dutch} = .71$; $\alpha_{European} = .73$). Consistent with our separation of Jackson's Self-Categorization scale, the two subscales we created were only modestly correlated in regard to Dutch ($r = .20$, $p < .001$) or European ($r = .20$, $p < .001$) identity.

Individual in-group overlap. We used a close adaptation of Schubert and Otten's (2002) circle overlap measure to assess individuals' inclusion of the self in their in-group. Participants were presented with pictures showing two circles—one representing themselves and one representing their [Dutch or European] in-group. The seven pictures showed different degrees of overlap, ranging from a great distance between the individual and in-group to complete overlap. Inclusion of the self in the in-group should be associated with our component of individual self-stereotyping.

Results and Discussion

Tables 5 and 6 illiustrate the (concurrent) correlations between our five components of in-group identification and the established measures. Our satisfaction component tended to correlate most highly and most consistently with the established scales. This is consistent with our suggestion that satisfaction is a very general facet of in-group identification that is central to most existing omnibus measures. Thus, to better examine whether our multiple components capture something more than satisfaction, we report partial correlations that control for satisfaction.

As shown in the first section of Table 5, all five of our components of (Dutch) identification tended to have small, statistically reliable correlations with Phinney's (1992) measures of (Dutch) *ethnic identification*. This remained true for the other four components when correlations with satisfaction were controlled. Thus, our five components of in-group identification appeared to be distinct from Phinney's measures of ethnic identification. Consistent with their conceptualization, our satisfaction and solidarity components were most highly correlated with Phinney's Affirmation and Belonging subscale. As expected, our centrality component was most strongly correlated with Phinney's Identity Search subscale.

As seen in Table 5, all five of our components of in-group identification tended to have small, negative bivariate correlations with Smith et al.'s (1999) *Attachment Avoidance* scale. However, the partial correlations suggested that this was mainly due to the correlation between our satisfaction component and attachment avoidance (see also Smith et al., 1999). Results appeared consistent across the three group identities examined. Consistent with Smith et al.'s view that *attachment anxiety* is most unlike standard conceptualizations of in-group identification, attachment anxiety tended not to have reliable bivariate correlations with our five components. However, the partial correlations showed attachment anxiety to have consistently *positive*, if small, correlations with our solidarity and centrality components. This is consistent with Smith et al.'s suggestion that those higher in attachment anxiety try to fit into the in-group.

The correlations between our five components of in-group identification and several established measures tended to be consistent across Dutch (see Table 6) and European (see Table 7) identification in Study 4. Consistent with its conceptualization, satisfaction was the component most highly correlated to the private and public subscales of CSE. After controlling for satisfaction, none of our other components was correlated to private or public CSE. Consistent with its conceptualization, the solidarity component had the highest partial correlation with membership CSE. And, consistent with its conceptualization, the centrality component had the high-

Table 5
Five Components of In-Group Identification Correlated With Established Identification Measures in Study 3

Measure	ISS	IGH	Satis.	Solid.	Centr.
			Dutch		
Identity Search					
r	.04	.14*	.11*	.14*	.22*
pr	.01	.13*		.10*	.20*
Affirmation and Belonging					
r	.17*	.22*	.34*	.36*	.37*
pr	.07	.19*		.19*	.25*
Attachment Anxiety					
r	.06	.01	−.11*	−.01	.01
pr	.11*	.03		.09†	.08†
Attachment Avoidance					
r	−.13*	−.15*	−.27*	−.22*	−.11*
pr	−.04	−.10*		−.05	.04
			European		
Attachment Anxiety					
r	.03	.05	−.05	.07	.05
pr	.05	.06		.12*	.08†
Attachment Avoidance					
r	−.02	.01	−.16*	−.06	.01
pr	.04	.04		.04	.09†
			University		
Attachment Anxiety					
r	.01	.04	−.04	.05	.13*
pr	.01	.06		.10*	.17*
Attachment Avoidance					
r	−.12*	−.05	−.19*	−.21*	−.03
pr	−.05	−.03		−.12*	.09†

Note. ISS = individual self-stereotyping; IGH = in-group homogeneity; Satis. = satisfaction; Solid. = solidarity; Centr. = centrality. Satisfaction controlled in partial *r* (*pr*).
* $p < .05$. † $p < .10$.

Table 6
Five Components of (Dutch) In-Group Identification Correlated With Established Identification Measures in Study 4

Measure	ISS	IGH	Satis.	Solid.	Centr.
Collective Self-Esteem					
Private					
r	.21*	.08	.54*	.37*	.21*
pr	.02	−.06		−.02	−.16*
Public					
r	.07	.08	.35*	.20*	.10
pr	−.06	.01		−.07	−.13*
Identity					
r	.24*	.13*	.37*	.33*	.33*
pr	.12*	.05		.11*	.15*
Membership					
r	.05	.14*	.29*	.28*	.20*
pr	.05	.08		.11*	.05
Self-Categorization					
r	.38*	.27*	.42*	.41*	.40*
Depersonalization					
r	.43*	.25*	.45*	.43*	.42*
pr	.33*	.20*		.18*	.21*
Meta-contrast					
r	.08	.16*	.13*	.13*	.13*
pr	.04	.13*		.05	.07
Individual in-group overlap					
r	.20*	.10	.31*	.29*	.17*
pr	.10†	.03		.11*	−.01

Note. ISS = individual self-stereotyping; IGH = in-group homogeneity; Satis. = satisfaction; Solid. = solidarity; Centr. = centrality. Satisfaction controlled in partial *r* (*pr*).
* $p < .05$. † $p < .10$.

est partial correlation with identity CSE. However, these correlations were small in magnitude, showing that our components are distinct from the more broadly conceptualized and measured subscales of CSE.

As expected, individual self-stereotyping had the highest partial correlation with the depersonalization items of Jackson's (2002) Self-Categorization scale. Individual self-stereotyping was also marginally correlated with *individual in-group overlap*, whether for the Dutch or European in-group. Consistent with its conceptualization, (Dutch) in-group homogeneity was the only one of the five components that had a reliable partial correlation with Jackson's meta-contrast items. None of the components were correlated with the meta-contrast of European identity.

Coda

Consistent with its conceptualization, individual self-stereotyping was most associated with depersonalization of the self and perceiving the self as part of the in-group. Although also associated with individual self-perception, the in-group homogeneity component was uniquely associated with the intergroup level perception of differences between the in-group and out-groups (i.e., meta-contrast). Thus, the two components of the (group-level) self-definition dimension appear to be related, and yet distinct. Also as expected, the three components of self-investment were associated with quite different constructs than the components of self-definition. Thus, satisfaction was most strongly associated with positive and negative feelings about the in-group (i.e., private and public CSE) and less avoidance of group attachment. Consistent with its conceptualization, centrality was associated with the subjective importance individuals gave their in-group membership (i.e., identity CSE) and with anxiety about fitting into the group. Although solidarity was also associated with anxiety about fitting in, it was uniquely associated with seeing oneself as a good group member (i.e., membership CSE). That all five of our components of in-group identification tended to have small to moderate correlations with Phinney's (1992) two scales of ethnic identity confirms our view that broad scales, such as Phinney's, combine several different facets of in-group identification in a way that obscures the specific ways in which individuals identify with their in-groups.

Study 5: Prospective Construct Validity

Study 5 returned to a subset of Study 1 participants several weeks after their initial participation. We examined how the five components of in-group identification measured in Study 1 prospectively predict participants' orientation to an intergroup relation relevant to their national identity. Thus, the study was framed as an examination of "the tension between Muslims and the Western world" since the 2001 terrorist attacks in the United States. This intergroup relation was especially relevant because there is a relatively large Muslim population in the Dutch city where the

Table 7
Five Components of (European) In-Group Identification Correlated With Established Identification Measures in Study 4

Measure	ISS	IGH	Satis.	Solid.	Centr.
Collective Self-Esteem					
Private					
r	.19*	.07	.38*	.30*	.15*
pr	.07	−.04		.09†	−.04
Public					
r	.14	.05	.20*	.18*	.04
pr	.08	−.01		.07	−.07
Identity					
r	.21*	.23*	.31*	.31*	.43*
pr	.12*	.14*		.17*	.33*
Membership					
r	.25*	.13*	.28*	.33*	.25*
pr	.17*	.06		.21*	.13*
Self-Categorization					
r	.22*	.11*	.26*	.20*	.23*
Depersonalization					
r	.27*	.14*	.28*	.24*	.24*
pr	.19*	.07		.09†	.12*
Meta-contrast					
r	−.01	−.01	.07	.03	.08
pr	−.04	−.03		−.02	.06
Individual in-group overlap					
r	.22*	.13*	.23*	.25*	.29*
pr	.09†	.12*		−.02	.04

Note. ISS = individual self-stereotyping; IGH = in-group homogeneity; Satis. = satisfaction; Solid. = solidarity; Centr. = centrality. Satisfaction controlled in partial *r* (*pr*). * $p < .05$. † $p < .10$.

study was conducted, and there was a good deal of political debate about the effects of radical Islam.

Method

Participants and Procedure

Of the 464 participants in Study 1, 440 took part in this study as part of a course requirement. None of the participants reported a Muslim background. Thus, we asked two sets of questions regarding relations between Muslims and non-Muslims in the Netherlands.

Measures

Three items assessed perceived differences between the two groups (e.g., "When talking about faith and religious practices, Muslims and [ethnic] Dutch people differ considerably from each other," $\alpha = .76$). Three items assessed a subjective sense that the in-group was threatened (e.g., "The increased tension makes me worry that my group receives less respect," $\alpha = .74$). Responses were given on 5-point Likert-type scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Consistent with the notion of meta-contrast, we expected in-group homogeneity to be most predictive of perceived differences between the groups. Consistent with its conceptualization, and Sellers and Shelton (2003), we expected the centrality of Dutch identity to best predict perceived threat to the in-group.

Results and Discussion

The prospective correlations are shown in Table 8. As expected, the in-group homogeneity component uniquely predicted greater perceived differences between non-Muslims and Muslims. Also as expected, centrality best predicted perceived threat to the in-group. The solidarity component was a weaker, but reliable, predictor of perceived threat.

Table 8
Five Components of In-Group Identification Predicting Orientation to Real Intergroup Relations in Studies 5–7

Measure	ISS	IGH	Satis.	Solid.	Centr.
Study 5: Dutch					
Perceived differences between groups	.06	.13*	.04	.05	.04
Perceived threat due to tension between groups	−.03	.01	.08	.10*	.15*
Study 6: Dutch					
Support for banning headscarves	−.13	−.05	.22	.25	.34*
Perceive group threat	.06	−.06	.05	.10	.29†
Dutch identity threatened by terrorism	.15	−.06	.01	−.08	.33†
Netherlands responsible for provoking terrorism	−.13	.35*	−.50*	−.32†	.17
Want Dutch Muslims to integrate better	.01	−.24	.37*	.37*	.20
Study 7: European					
Guilt about European mistreatment of out-group	.33*	.10	−.04	.12	.09
Shame about. . .	.20	.07	−.01	−.04	.03
Appalled about. . .	.08	.10	−.12	−.04	.10
Sympathy about. . .	−.04	−.09	.05	−.04	−.06
Legitimization of European asylum policy	−.20	−.11	.39*	.15	.29*

Note. ISS = individual self-stereotyping; IGH = in-group homogeneity; Satis. = satisfaction; Solid. = solidarity; Centr. = centrality.
* $p < .05$. † $p < .10$.

Discriminant Validity

Study 5 also enabled us to examine the discriminant validity of our components of in-group identification. Although our components were designed as a *conceptual* improvement on existing models, their empirical value would be shown if they prospectively predict intergroup orientation independently of established measures. Thus, we used hierarchical multiple regression analyses to examine this. We entered only the components of self-definition or self-investment shown to correlate with each intergroup orientation in the analyses above into the first block of predictors (to reduce multicollinearity and thus improve parameter estimation). We then entered the other measures of in-group identification shown to correlate with each intergroup orientation in the analyses above into the model in a second block of predictors.

When we entered all relevant predictors into the model predicting perceived differences between non-Muslims and Muslims, the in-group homogeneity component of Dutch identification ($b = .075$, $SE = .036$, $p = .04$) predicted independently of Phinney's (1992) measures of Identity Search ($b = -.075$, $SE = .106$, $p = .48$) and Affirmation and Belonging ($b = .316$, $SE = .114$, $p = .006$). However, adding the Phinney scales in the second block of the model, $F(2, 438) = 4.34$, $\Delta R^2 = .03$, $p = .01$, did improve upon the prediction offered by in-group homogeneity alone, $F(1, 438) = 7.55$, $R^2 = .02$, $p = .006$.

When we entered all relevant predictors into a model parallel to that above, in-group homogeneity ($b = .085$, $SE = .036$, $p = .02$) predicted perceived differences between non-Muslims and Muslims independently of Smith et al.'s (1999) Attachment Anxiety ($b = .054$, $SE = .059$, $p = .36$) and Attachment Avoidance ($b = -.085$, $SE = .064$, $p = .18$) scales. The addition of the Smith et al. scales in the second block of the model, $F(2, 439) = .916$, $\Delta R^2 = .004$, $p = .40$, did not improve upon the prediction offered by in-group homogeneity alone, $F(1, 439) = 7.07$, $R^2 = .02$, $p = .008$.

When we entered all relevant predictors into the model predicting perceived threat to the in-group, the centrality component of Dutch identification ($b = .096$, $SE = .048$, $p = .05$) predicted independently of Phinney's (1992) Identity Search ($b = .400$, $SE = .146$, $p = .006$) and Affirmation and Belonging ($b = .184$, $SE = .161$, $p = .25$) subscales. However, the addition of the Phinney scales in the second block of the model, $F(2, 438) = 8.46$,

$\Delta R^2 = .04$, $p < .001$, did improve upon the prediction offered by centrality alone, $F(1, 438) = 10.68$, $R^2 = .02$, $p = .001$.

When we entered all relevant predictors into a model parallel to that above, centrality ($b = .153$, $SE = .046$, $p = .001$) predicted perceived threat to the in-group independently of Smith et al.'s (1999) Attachment Anxiety ($b = .138$, $SE = .081$, $p = .09$) and Attachment Avoidance ($b = .090$, $SE = .086$, $p = .30$) scales. However, the addition of the Smith et al. scales in the second block of the model, $F(2, 439) = 4.06$, $\Delta R^2 = .02$, $p = .02$, did improve upon the prediction offered by centrality alone, $F(1, 439) = 10.69$, $R^2 = .02$, $p = .001$.

Coda

Further corroborating their conceptualization, our in-group homogeneity component (prospectively) predicted perceived intergroup difference, and our centrality component (prospectively) predicted perceived threat to the in-group. These results are especially noteworthy, as the components of in-group identification were assessed several weeks prior to this study and with no reference to the intergroup relation examined. It is also important to note that these effects were shown to be independent of those produced by two established measures of in-group identification. Thus, in addition to their ability to show more precisely the conceptual content of in-group identification assessed, our more narrowly specified components demonstrated their empirical value by independently predicting intergroup orientations. As Phinney's (1992) two scales contain numerous facets of ethnic identity, it is not surprising that they predicted perceptions of intergroup threat and difference. However, the value of more narrowly specified components is made clear by the fact that the multifaceted nature of scales such as Phinney's make it difficult to know why they predict a particular intergroup orientation. For example, it is unclear why a measure of "identity search" should predict perceived threat to the in-group. In contrast, the prediction offered by our more narrowly specified components is more clear and precise; the centrality of a group membership predicts perceived threat because individuals are alert to threats to groups that are important to their group-level self-concept.

Study 6: Further Prospective Construct Validity

To further examine the intergroup relation addressed in Study 5, Study 6 was conducted days after the deadly bombing of a Madrid train station by "Muslim terrorists" on March 11, 2004. At the time, there was widespread concern that this attack was the first of many in major European cities (including the one where this study was conducted).

Method

Participants and Procedure

Several months after Study 1, 36 of the ethnic Dutch participants took part in the present study as part of a course requirement. After a brief reminder that "Muslim terrorists" had used bombs to kill passengers at a Madrid train station, we asked a set of questions regarding perceived threat to the ethnic Dutch in-group, terrorism, and ethnic Dutch relations with Muslims. All responses were given on 7-point scales that ranged from 1 (*not at all*) to 7 (*very much*).

Measures

Three items assessed perceptions of threat to the in-group. One item assessed threat in general, one item assessed cultural threat from Islam (i.e., support for banning Muslim headscarves in schools), and another assessed whether the Madrid bombing threatened participants' sense of "being Dutch." As in Study 5, we expected centrality to predict perceived threat to the in-group.

A single item used the context of the Madrid bombing to ask whether individuals thought that the Netherlands' political and other actions could be "responsible for provoking a terrorist attack." As holding the in-group responsible for a calamitous event should challenge individuals' positive feelings about their in-group membership (Leach et al., 2002), we expected the component of satisfaction to predict disagreement with perceived in-group responsibility for terrorism. A final question asked participants whether they wanted "Muslims" to "integrate better" in the Netherlands. As solidarity taps a sense of a common bond with the in-group, we expected this component of in-group identification to predict wanting Muslims to integrate better.

Results and Discussion

The degree to which the five components of in-group identification (prospectively) predicted participants' subsequent intergroup orientation is shown in Table 8. As expected, the centrality of Dutch identity predicted several different perceptions of threat to the in-group. And, consistent with our conceptualization, (Dutch) solidarity was a unique predictor of wanting greater national solidarity through the better integration of Muslims. Satisfaction appeared to predict maintenance of a positive group identity. Thus, as expected, satisfaction with Dutch identity predicted perceiving the Netherlands' political and other actions as less responsible for provoking terrorism.

The components of group-level self-definition showed a pattern of results distinct from the components of self-investment. Most dramatically, in-group homogeneity was a positive predictor of holding the in-group responsible for provoking terrorism, whereas satisfaction was a negative predictor. Consistent with our conceptualization, in-group homogeneity was more strongly linked with this intergroup orientation than was the individual self-stereotyping component of self-definition. Thus, confirming its emphasis of the individuals' relation to the in-group, individual self-stereotyping did not predict any of the intergroup orientations assessed here. In Study 7, we examined individuals' guilt about in-group wrongdoing as a likely outcome of individual self-stereotyping.

As in Study 5, we sought to examine whether our components of in-group identification (prospectively) predicted intergroup orientations independently of established scales. However, this small sample, and the resultant lack of statistical power, precluded general use of the multiple regression approach used in Study 5. The small sample also appeared to lead to an inflation of correlations between our five components and the established scales of in-group identification. As preliminary analyses showed parameter estimates to be biased as a result of this multicollinearity, we took a more careful approach to the present analyses.

As a first step, we examined whether either of the identification scales of Phinney (1992) or of Smith et al. (1999) prospectively

predicted the intergroup orientations examined here. None of these established scales reliably predicted the three measures of perceived threat to the in-group. Thus, our centrality component was unique in its consistent prediction of perceived threat. Neither did any of the established measures reliably predict wanting Dutch Muslims to integrate better. Thus, solidarity was a unique predictor of this outcome.

Of the established scales, only Phinney's (1992) Identity Search subscale predicted viewing the in-group as provoking terrorism, $r(35) = .37$, $p = .03$. It is unclear why. As reported above, our components of in-group identification yield more readily interpretable findings, as in-group homogeneity was a positive predictor and satisfaction was a negative predictor of viewing the in-group as provoking terrorism. In any case, we examined the three reliable predictors in a hierarchical multiple regression analysis. When all predictors had been entered, the satisfaction ($b = -.507$, $SE = .157$, $p = .003$) and in-group homogeneity ($b = .225$, $SE = .120$, $p = .07$) components of Dutch identification predicted viewing the in-group as provoking terrorism independently of Phinney's (1992) Identity Search ($b = .581$, $SE = .284$, $p = .05$) subscale. The addition of the Phinney scale in the second block of predictors, $F(1, 32) = 4.18$, $\Delta R^2 = .08$, $p = .05$, modestly improved upon the prediction offered by our satisfaction and in-group homogeneity components in the first block, $F(2, 32) = 7.74$, $R^2 = .34$, $p = .002$. These results are especially noteworthy, as in-group identification was assessed several months prior to this study and with no reference to the intergroup relation examined.

Study 7: Identification and Group-Based Guilt

Studies 5 and 6 showed our components of in-group identification to differentially predict individuals' orientation to their in-group's relation with an out-group. It was in the context of threat to the in-group that the components of in-group identification were most dramatically differentiated. Where the in-group was perceived to be under cultural and physical threat, the components of self-definition tended to have effects opposite to those of self-investment. For example, in-group homogeneity had a positive effect and satisfaction had a negative effect on viewing the in-group as provoking terrorism. The present study was designed to corroborate, and elaborate upon, these findings. Thus, we examined the degree to which our five components of in-group identification prospectively predicted individuals' reactions to the threat posed by the in-group's systematic mistreatment of an out-group.

A growing body of work suggests that individuals can experience their in-group's mistreatment of an out-group as a threat to their group identity (for a review, see Ellemers, Spears, & Doosje, 1999). One response to this threat is to view the in-group as wrong and to feel self-critical emotions such as guilt (e.g., Doosje, Branscombe, Spears, & Manstead, 1998; for a review, see Leach et al., 2002). Recent theorizing suggests that identification with an in-group serves as the basis for such group-based emotions (for a review, see Mackie, Silver, & Smith, 2004). However, research with unitary measures of in-group identification has yielded contradictory results regarding group-based guilt. For example, Doosje et al. (1998) found the highly identified (categorized with a median split) to show less guilt about their in-group's ambiguous mistreatment of an out-group. This is consistent with the idea that in-group identification leads individuals to defend against threats to their in-group when the ambiguity of the mistreatment makes defense possible. However, most studies have failed to find any direct association between unitary measures of in-group identification and group-based guilt (e.g., Branscombe, Slugoski, & Kappen, 2004; Gordijn, Yzerbyt, Wigboldus, & Dumont, 2006; Iyer, Leach, & Crosby, 2003; Johns, Schmader, & Lickel, 2005; McGarty et al., 2005).

The few previous studies of group-based guilt in which less general measures of in-group identification have been used have produced mixed results. For example, in a study of individuals' recalled experiences of guilt about the misdeeds of a fellow in-group member, Lickel, Schmader, Curtis, Scarnier, and Ames (2005) found guilt to have no association with a measure of "identity relevance." And, in a study of individuals' guilt about expressions of prejudice by a conational, Johns et al. (2005) found no association with the four subscales of Luhtanen and Crocker's (1992) CSE. However, consistent with the spirit of Doosje et al.'s (1998) argument, Swim and Miller (1999) found a measure similar to satisfaction (i.e., private CSE) to have negative associations with European Americans' guilt about their structural advantage over African Americans (with *r*s ranging from $-.25$ to $-.35$). Yet, a different pattern of results is shown in Roccas, Klar, and Liviatan's (2004) recent studies of Israelis' guilt about their country's past mistreatment of Arabs. Roccas et al. found a general "attachment" to the in-group (i.e., "importance" and "affective commitment") to be positively associated with guilt. A self-aggrandizing "glorification" (i.e., "superiority" and "idealization") was negatively associated with guilt (and positively associated with beliefs that served to exonerate the in-group).

This brief review highlights the difficulties of interpretation that result from using unitary, or otherwise compounded, measures of in-group identification to predict group-based guilt. We believe that our five components of in-group identification offer a better approach to this issue because they are narrowly specified. This specificity allows more precise hypotheses about which components of in-group identification should predict greater group-based guilt and which components should predict lower group-based guilt. For example, as individual self-stereotyping establishes the individual as similar to the in-group prototype, it promotes psychological inclusion in the in-group (as shown in Studies 3–6). This psychological inclusion should lead individuals to feel greater group-based guilt (e.g., Leach, Iyer, & Pedersen, 2006, Study 2; for a discussion, see Leach et al., 2002). In contrast, the components of self-investment are an unlikely basis of group-based guilt. In fact, those most invested in their in-group should most defend the in-group's image against threat (as shown in Studies 3–6). Our conceptualization of satisfaction and centrality suggest that these two components of group-level self-investment should best predict a defense of the in-group via legitimization of its actions. The argument of Doosje et al. (1998), and the evidence of Swim and Miller (1999) as well as Roccas et al. (2004), suggests that satisfaction may be especially predictive of legitimization of in-group misdeeds in an attempt to preserve satisfaction with in-group membership. Study 7 was designed to examine these hypotheses.

Method

Participants and Procedure

Of the 363 Dutch participants in Study 2, 49 took part in the present study as part of a course requirement (34 women, 15 men). Participants ranged in age from 18 to 56 (M_{age} = 21.88, *SD* = 7.49). Of the participants, 1 self-described as Moroccan, 2 as Surinamese or Antillean, 44 as Dutch, and 2 gave no response.

The study took place 1 month after Study 2. Thus, we improved on most of the research cited above by treating in-group identification as a prospective predictor of group-based guilt. We also departed from most previous practice by presenting individuals with a specific, and previously unknown, threat to their in-group identity. Thus, we presented concrete evidence of the in-group's present mistreatment of an out-group, rather than asking questions about the in-group's well-known misdeeds in the past.

Under the guise of "Responses to International News," we told participants that we were interested in their reactions to issues that had received recent attention in the news. After general instructions, the first section of the study provided an introduction to the 1994 genocide in Rwanda, with the caption "Leave none to tell the story." The text stated,

> From April to July 1994, it is estimated that 800,000 people were killed in the Central African country of Rwanda. This genocide took place in only 100 days, as the world watched and did nothing to stop it. Since the 10-year anniversary of the genocide, there has been a great deal of media coverage, including many news programs, documentaries, books, and films (such as last year's "Hotel Rwanda").

The text then provided further background to the news story that would be presented. It stated,

> What has received less attention is the continuing plight of those Rwandans who are seeking asylum in other countries because they still fear for their lives. Rwanda remains a dangerous place, where both perpetrators and victims in the genocide take revenge for the killings of 10 years ago. Below we present you with an article from the international organization "Human Rights Watch" that was taken from their Web site: http://www.hrw.org/. It discusses the situation of Rwandan asylum seekers. Please read it carefully.

The ostensible Human Rights Watch article was entitled "RECEPTION FOR RWANDAN ASYLUM SEEKERS IN EUROPE." It was accompanied by a picture of a column of Rwandan refugees walking on a road. The Human Rights Watch logo and Web address were placed above the text. The article described Europe's mistreatment of Rwandan asylum seekers.[3] It was adapted from an actual report taken from the Human Rights Watch Web site. Thus, we aimed at inducing group-based guilt.

Measures

Emotions. Immediately after the article, we asked participants, "After reading the news article, how do you now feel?" On the basis of Iyer et al. (2003, Study 2) and Leach et al. (2006, Study 3), a list of 20 positive and negative emotion words were included with a response scale that ranged from 0 (*not at all*) to 5 (*extremely*). Guilt was assessed with the terms *guilty*, *regretful*, and *remorseful* (α = .84; *M* = 2.92, *SD* = 1.13). Ashamed was assessed with the term *ashamed* (*M* = 3.32, *SD* = 1.43). Sympathy was assessed with the terms *sympathetic*, *compassionate*, and *empathetic* (α = .81; *M* = 4.15, *SD* = 0.86). Appalled was assessed with the terms *appalled*, *shocked*, and *shaken* (α = .84; *M* = 3.52, *SD* = 1.19).

Legitimization. To assess individuals' defense against the identity threat posed by the in-group's misdeeds, we presented participants with two statements that legitimized European asylum policy (α = .83; *M* = 3.18, *SD* = 1.29): "Although mistakes may be made, there is nothing wrong with European asylum law" and "The European Union is right to handle asylum seekers from Rwanda in the way it does." Responses were given on a 7-point Likert-type scale, which ranged from 1 (*strongly disagree*) to 7 (*strongly agree*).

Results

As expected, the ostensible Human Rights Watch report appeared to be convincing evidence of the European in-group's mistreatment of Rwandan asylum seekers. This is suggested by the fact that participants reported moderate levels of guilt, a rarity in research on the group-based form of this emotion (see Leach, 2007). As shown in Table 8, (European) individual self-stereotyping was the only component of in-group identification to prospectively predict group-based guilt. Confirming that individual self-stereotyping was only predictive of the group-based emotion relevant to the intergroup context we introduced, individual self-stereotyping did not predict feeling ashamed, sympathetic, or appalled. Indeed, none of the five components of in-group identification predicted these other emotions. Although participants expressed high levels of shame, sympathy, and being appalled, these emotions were clearly less relevant to their European identity in this context than was group-based guilt. As expected, only the components of self-investment prospectively predicted legitimization of the in-group's misdeeds. Consistent with its conceptualization, and our prior results, the satisfaction component was a predictor of moderate magnitude, whereas centrality was a predictor somewhat smaller in magnitude.

To establish the discriminant validity of our components of in-group identification, we examined whether individual self-stereotyping predicted group-based guilt independently of the four CSE subscales. Thus, in a hierarchical multiple regression analysis, we first entered individual self-stereotyping, and then, in a second block of predictors, we included all four CSE subscales. When all predictors had been entered into the model, individual self-stereotyping independently predicted group-based guilt (b = .244, *SE* = .114), $t(49) = 2.14$, $p = .051$. However, none of the four CSE subscales predicted group-based guilt (all $ps > .31$). Thus, adding the CSE subscales in a second block of predictors did not improve the prediction offered by individual self-stereotyping, $F(1, 48) = 0.582$, $\Delta R^2 = .05$, $p = .677$. A parallel analysis showed

[3] The ostensible Human Rights Watch report was divided into four paragraphs. The first paragraph described a procedure in Europe that "violates international standards for the treatment of asylum seekers." A second paragraph made it clear that the mistreatment of Rwandan asylum seekers was especially surprising given the recent genocide and continued suffering. A third paragraph presented the "illustrative case" of the Jones family. The fourth paragraph of the article detailed the harm done to the "Jones family" by their ordeal in Rwanda and by their treatment in Europe.

that the prediction of group-based guilt was not improved by having the two subscales from Jackson's (2002) Self-Categorization measure in the second block of predictors instead of the CSE subscales, $F(1, 45) = 0.405$, $\Delta R^2 = .02$, $p = .670$. Although neither subscale of Self-Categorization predicted group-based guilt (both $ps > .38$), individual self-stereotyping was an independent predictor in this model ($b = .271$, $SE = .129$), $t(49) = 2.11$, $p = .041$.

To establish the discriminant validity of our satisfaction component, we examined whether it predicted legitimization of European asylum policy independently of the four CSE subscales. Thus, in a hierarchical multiple regression analysis, we first entered satisfaction, and then, in a second block of predictors, we included all four CSE subscales. When all predictors had been entered into the model, satisfaction independently predicted legitimization of European asylum policy ($b = .373$, $SE = .182$), $t(49) = 2.05$, $p = .046$. As none of the CSE subscales predicted legitimization (all $ps > .07$), their addition to the model did not improve the prediction offered by satisfaction, $F(1, 48) = 1.09$, $\Delta R^2 = .08$, $p = .373$. A parallel analysis showed that the prediction of legitimization was not improved by having Jackson's (2002) Self-Categorization subscales in a second block of predictors instead of the CSE subscales, $F(1, 48) = 1.42$, $\Delta R^2 = .05$, $p = .252$.

Discussion

Study 7 showed that participants' individual self-stereotyping as European prospectively predicted their guilt about this in-group's mistreatment of Rwandan asylum seekers. Thus, as in Study 6, the individual self-stereotyping component of group-level self-definition led individuals to view their in-group critically. As hypothesized, the self-investment components of in-group identification did not directly predict the self-critical emotion of group-based guilt. In fact, the centrality and (especially) satisfaction components predicted legitimization of the in-group's actions. Thus, as in Studies 5 and 6, satisfaction was associated with defense of the in-group against the threat of criticism. That the components of self-definition and self-investment have opposite effects on group-based guilt goes a long way in confirming their divergent validity. These results also provide compelling support for the value in differentiating specific components in terms of the more general dimensions of group-level self-definition and self-investment.

As in Studies 5 and 6, a prospective design was used in Study 7. This is an improvement over previous work, in which concurrent correlations between in-group identification and group-based guilt have been examined. Our prospective design is likely to have reduced the bias introduced by multicollinearity across measures and participants' attempts to respond consistently. However, by requiring in-group identification to predict an outcome assessed months later, we may be underestimating its more immediate effects on group-based guilt. Future research might consider these more immediate effects in a way that limits the problems associated with concurrent correlations.

General Discussion

The degree to which individuals identify with in-groups has been shown to be an important determinant of group and intergroup dynamics. Recent work suggests that in-group identification is made up of multiple components, although it has not established their precise number and nature. In an integration of classic and contemporary thinking, we identified five components of in-group identification and integrated them within a hierarchical two-dimensional model that differentiates group-level self-definition from self-investment. We think that our model of in-group identification offers at least two advantages over previous multicomponent approaches.

First, our model specifies how multiple components of in-group identification are similar to or different from each other. For example, conceptualizing satisfaction and solidarity as both falling on a more general dimension of self-investment explains why previous research has found them to be so closely linked. However, distinguishing between satisfaction and solidarity also makes clear how they are different from each other and different from other components, such as centrality. This allows a fine-grained analysis of the specific effects that the components of in-group identification have. For example, centrality was shown to have a unique association with the perception of threat to the in-group that was not shared by the satisfaction and solidarity components of self-investment. In contrast, satisfaction was shown to have a unique association with defense against threats to the in-group and its image.

Second, by conceptualizing group-level self-investment and self-definition as general dimensions of in-group identification, we were able to integrate five different components of in-group identification into one hierarchical model. Results were more consistent with our hypothesized dimensions of self-definition and self-investment than the cognitive and affective dimensions implied in previous theory and research. For example, that the solidarity, satisfaction, and centrality components all fall along the same dimension argues against conceptualizing this dimension as affect or evaluation. Indeed, centrality has no explicitly affective or evaluative content, and yet it loads very highly on this dimension. In addition, the most clearly affective and evaluative component, satisfaction, loads no more highly on the self-investment dimension than do solidarity or centrality. Thus, this dimension appears to be better characterized as self-investment than affect or evaluation.

Future work may identify additional components of in-group identification. Some of these components may fall within our two-dimensional model. Or, the specification of additional components of in-group identification may require the conceptualization of additional dimensions along which they fall. By elaborating how specific components of in-group identification fall along more general dimensions, our approach provides an expandable framework for future work. Without a hierarchical framework that specifies more general dimensions, such as that offered by our model, the proliferation of multiple components of in-group identification might threaten the coherence of the construct.

It is also worth noting the potential limitations of our approach. By examining Dutch views of their intergroup relation with Muslims, we focused on intergroup relations characterized by societal salience, deep involvement, and a sense of threat in Studies 5 and 6. In Study 7, we made individuals face the threat posed by a portrayal of their European in-group as mistreating Rwandan asylum seekers. As threat to the in-group magnifies the meaning of group identity (for a review, see Ellemers, Spears, & Doosje, 1999), it is possible that in-group identity plays a less important role under less threatening circumstances. Although we used threat

in several cases to examine the role of in-group identification, our approach is general enough to examine the circumstances under which in-group identification becomes relevant as well as those under which it does not.

One of the most important implications of our model is that it suggests that individuals may identify in different ways with different groups. For example, our approach provides one way to explore which components are central to identification with experimentally created groups versus real-world groups. As experimentally created groups have no prior history and little meaning outside of the laboratory, identification with such groups is more likely to be based in group-level self-definition than in self-investment. Group-level self-definition also seems a more likely basis of identification with the kind of nominal real-world groups that have been referred to as common identity (Prentice et al., 1994) or categorical (Wilder & Simon, 1998) groups. A self-definitional basis of identification is likely to affect the dynamics within and between groups that invite this kind of identification. For example, where individuals' identification with an in-group is based more in self-definition, the associated entitativity of this in-group should promote greater acceptance of the in-group's failures or misdeeds. However, where individuals' identification with an in-group is based more in self-investment, the satisfaction with and centrality of this in-group should lead to defense against threats to the in-group and its image. Group-level self-investment is likely to be at the heart of what have been referred to as common bond (Prentice et al., 1994) or dynamic (Wilder & Simon, 1998) groups. By specifying some of the central components of in-group identification, we hope to aid a more fine-grained understanding of the different ways that individuals may identify with different types of groups.

In addition, we think that our framework may help resolve complicated or contradictory claims regarding in-group identification. For example, most recent research on group-based emotion presumes that individuals' identification with an in-group is a necessary precondition (Mackie et al., 2004; Smith, 1993). However, other research suggests that, under specific circumstances, in-group identification actually reduces group-based emotions such as guilt (e.g., Doosje et al., 1998). When in-group identification is treated as a unitary construct, these arguments appear contradictory and confusing. However, when examined within our framework, integrative possibilities emerge.

When confronted with an in-group's misdeeds, it is the individuals' self-definition at the group level that seems necessary to the self-critical feeling of group-based guilt. The more individuals psychologically include themselves in a group, the more guilt they should feel about the in-group's misdeeds. This is why group-based guilt was uniquely predicted by the individual self-stereotyping component of self-definition in Study 7. As the components of group-level self-investment capture quite different aspects of identification than the components of self-definition, they could not be expected to have the same effects on group-based guilt. Consistent with the notion that it is the desire to maintain a positive image of the in-group that undermines the psychological basis of group-based guilt, the satisfaction with and the centrality of group membership predicted legitimization of the in-group. Those who most invested themselves in their in-group identity most strongly defended this identity by legitimizing the in-group's misdeed. Thus, the distinctions we drew between the components of in-group identification allowed us to explain why identification can have opposing effects on how individuals experience the threat of group immorality. Specifying the components of in-group identification should enable fine-grained examinations of how one's particular form of identification with an in-group affects how one experiences and reacts to specific group and intergroup contexts.

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Appendix

Items Measuring In-Group Identification

(Group-Level) Self-Investment

Solidarity

1. I feel a bond with [In-group]. (Adapted from Cameron, 2004; Doosje et al., 1998.)
2. I feel solidarity with [In-group].
3. I feel committed to [In-group]. (Doosje et al., 1995)

Satisfaction

4. I am glad to be [In-group]. (Adapted from Cameron, 2004; Doosje et al., 1998; Luhtanen & Crocker, 1992.)
5. I think that [In-group] have a lot to be proud of. (Ellemers, Kortekaas, & Ouwerkerk, 1999.)
6. It is pleasant to be [In-group]. (Doosje et al., 1998.)
7. Being [In-group] gives me a good feeling. (Adapted from Cameron, 2004; Luhtanen & Crocker, 1992.)

Centrality

8. I often think about the fact that I am [In-group]. (Adapted from Cameron, 2004.)
9. The fact that I am [In-group] is an important part of my identity. (Adapted from Luhtanen & Crocker, 1992.)
10. Being [In-group] is an important part of how I see myself. (Adapted from Doosje et al., 1998; Ellemers, Kortekaas, & Ouwerkerk, 1999; Luhtanen & Crocker, 1992.)

(Group-Level) Self-Definition

Individual Self-Stereotyping

11. I have a lot in common with the average [In-group] person. (Adapted from Spears et al., 1997.)
12. I am similar to the average [In-group] person. (Adapted from Doosje et al., 1995; Spears et al., 1997.)

In-Group Homogeneity

13. [In-group] people have a lot in common with each other. (Adapted from Spears et al., 1997.)
14. [In-group] people are very similar to each other. (Adapted from Ellemers, Kortekaas, & Ouwerkerk, 1999; Spears et al., 1997.)

Excluded Items

15. I see myself as [In-group]. (Doosje et al., 1998.)
16. I identify with other [In-group] people. (Doosje et al. (1998); Ellemers, Kortekaas, & Ouwerkerk, 1999.)
17. Being [In-group] just feels natural to me. (Doosje et al., 1998.)
18. I feel (personally) implicated when [In-group] people are criticized. (Adapted from Jackson, 2002.)
19. [In-group] are an important group to me. (Doosje et al., 1998.)
20. I have a lot of respect for [In-group] people. (Ellemers, Kortekaas, & Ouwerkerk, 1999.)

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